

1 (June 26, 2000)

2 **Bridge Deck Repair Prior to Membrane Waterproofing Application**

3 The Contractor shall have the services of a qualified technical
4 representative of the pre-packaged concrete manufacturer available at the
5 job site to assist in assuring the proper preparation and use of the pre-
6 packaged concrete in the bridge deck repair. The qualified technical
7 representative shall be present at the site at all times while the Contractor is
8 preparing and placing the pre-packaged concrete mix. The qualified
9 technical representative shall be an employee of the pre-packaged concrete
10 manufacturer. Recommendations made by the qualified technical
11 representative and approved by the Engineer, shall be followed by the
12 Contractor.

13
14 All loose and unsound concrete within the repair area shall be removed with
15 jackhammers or chipping hammers no more forceful than the nominal 133
16 Newton class, or other mechanical means approved by the Engineer, and
17 operated at angles less than 45 degrees as measured from the surface of
18 the deck to the tool. If unsound concrete exists around the existing steel
19 reinforcing bars, or if the bond between concrete and steel reinforcing bar is
20 broken, the Contractor shall remove the concrete to provide a 20 millimeter
21 minimum clearance to the bar. The Contractor shall take care to prevent
22 damage to the existing steel reinforcing bars and concrete to remain.

23
24 After removing sufficient concrete to establish the limits of the repair area,
25 the Contractor shall make neat vertical saw cuts and maintain square
26 edges at the boundaries of the repair area. The saw cut depth shall not
27 exceed 20 millimeter or the concrete cover over the top steel reinforcing
28 bars, whichever is less.

29
30 The pre-packaged concrete shall be thoroughly mixed in a batch mixer
31 which mixes materials uniformly throughout the batch, and is of the type
32 and size approved by the Engineer. The mixer shall have a minimum rated
33 capacity of 0.11 cubic meters. The batches shall be charged into the mixer
34 such that some water enters before the pre-packaged material. The
35 Contractor shall place all water required for the mix in the drum by the end
36 of the first quarter of the required mixing time of one minute minimum. The
37 Contractor may propose shorter mixing times with special mixing equipment
38 by submitting mixing test results to the Engineer for approval. If the
39 Contractor uses heated water, the Engineer may require revising the order
40 of charging to prevent flash setting of the concrete mix.

41
42 The exposed steel reinforcing bars and concrete in the repair area shall be
43 sandblasted and blown clean just prior to placing concrete.

44
45 All bridge deck repair areas shall be cured in accordance with the pre-
46 packaged concrete manufacturer's recommendations as approved by the
47 Engineer, or in accordance with Section 6-02.3(11) for Class 28D concrete,
48 until the concrete has attained the specified strength. During concrete
49 curing, all vehicular and foot traffic shall be prohibited on the repaired area.

50
51 All deck repair shall be completed prior to placement of the waterproofing
52 membrane.